

TOSHIBA HALL SENSOR GaAs ION IMPLANTED PLANAR TYPE

THS118

HIGH STABILITY MOTOR CONTROL.
DIGITAL TACHOMETER.
CRANK SHAFT POSITION SENSOR.

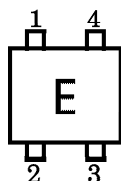
- Super Small Package.
- Excellent Temperature Characteristics.
- Wide Operating Temperature Range. (; -55~125°C)
- Excellent Output Voltage Linearity.

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|------------------|----------------|------|
| Control Current | DC 1s | I _C | 10** |
| | | | 15** |
| Power Dissipation | P _D | 100** | mW |
| Operating Temperature Range | T _{opr} | -55~125 | °C |
| Storage Temperature Range | T _{stg} | -55~150 | °C |

** Mounted on a printed circuit board.

MARKING



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|----------------------------------|----------------------------------|---|------|------|-------|------------------------|
| Internal Resistance (Input) | R _d | I _C = 5mA | 450 | — | 900 | Ω |
| Residual Voltage Ratio | V _{HO} / V _H | I _C = 5mA, B = 0 / B = 0.1T | — | — | ± 10 | % |
| Hall Voltage (Note 1) | V _H | I _C = 5mA, B = 0.1T | 55 | — | 140 | mV |
| Temperature Coefficient (Note 2) | V _{HT} | I _C = 5mA, B = 0.1T T ₁ = 25°C, T _a = 125°C | — | — | -0.06 | % / °C |
| Linearity (Note 3) | ΔK _H | I _C = 5mA, B ₁ = 0.1T, B ₂ = 0.5T | — | — | 2 | % |
| Specific Sensitivity (Note 4) | K* | I _C = 5mA, B = 0.1T | — | 27 | — | × 10 ⁻² / T |
| Internal Resistance (Output) | R _{OUT} | I _C = 5mA | 580 | — | 1350 | Ω |

Note 1 : V_H = V_{HM} - V_{HO} (V_{HM} is meter indication)

Note 2 : $V_{HT} = \frac{1}{V_H(T_1)} \cdot \frac{V_H(T_2) - V_H(T_1)}{T_2 - T_1} \times 100 (\% / ^\circ\text{C})$

Note 3 : $\Delta K_H = \frac{K_H(B_2) - K_H(B_1)}{1/2 \{ K_H(B_1) + K_H(B_2) \}} \times 100 (\%)$, $K_H = \frac{V_H}{I_C \cdot B}$

Note 4 : $K^* = V_H / (R_d \times I_C \times B) = K_H / R_d$

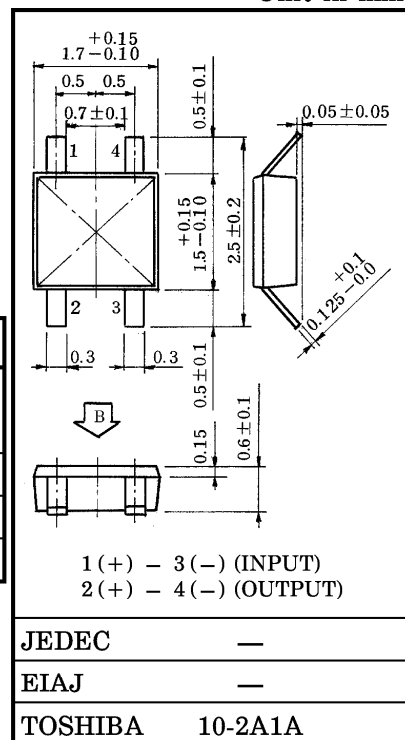
V_{HO} : Residual Voltage

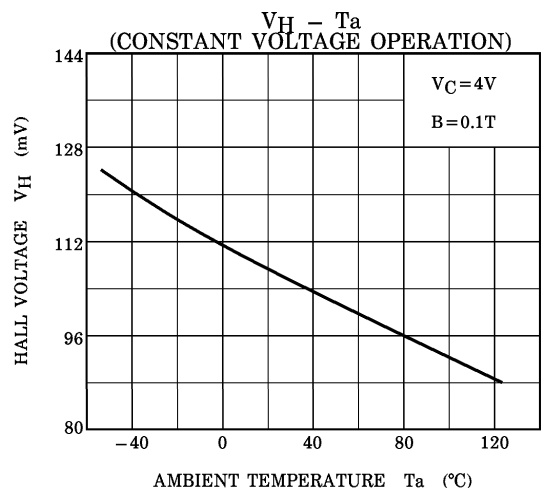
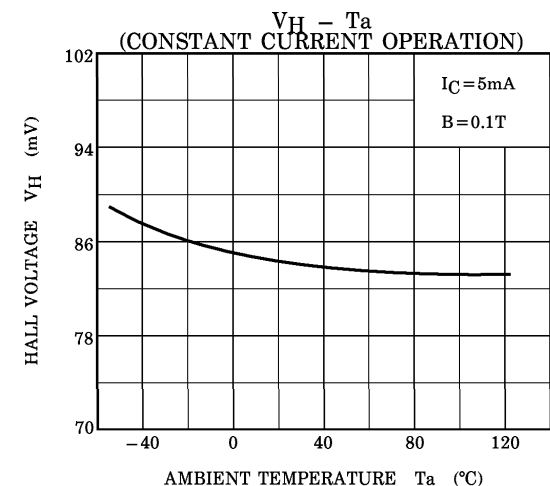
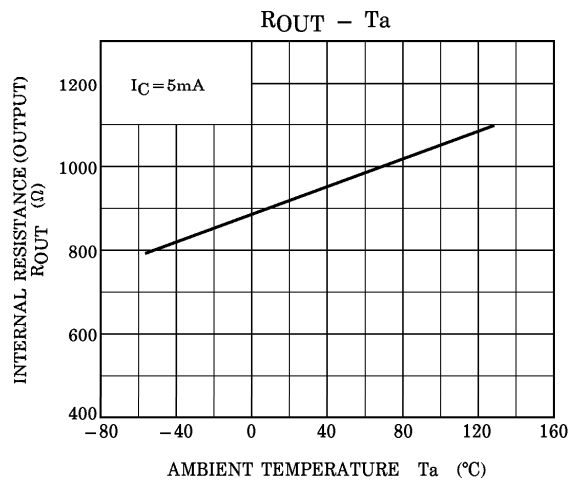
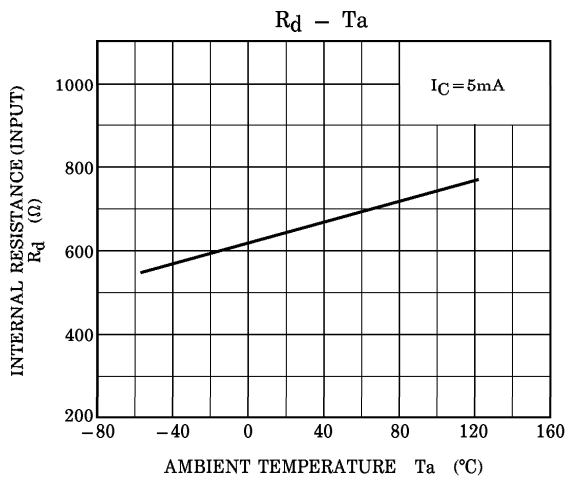
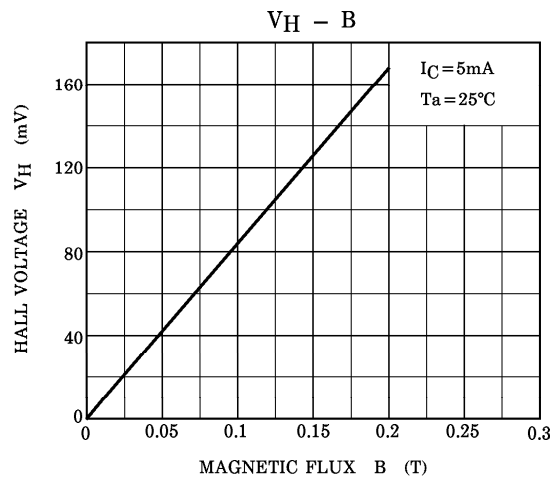
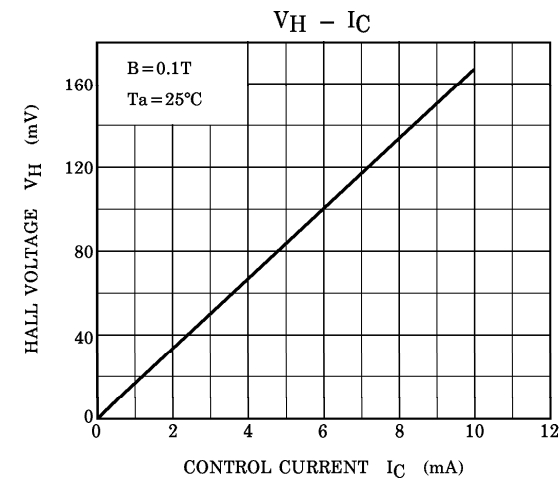
K_H : Product Sensitivity

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Unit in mm





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